

LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES



**OFFICE OF FISHERIES
INLAND FISHERIES SECTION**

PART VI –C (ARCHIVES)

WATERBODY MANAGEMENT PLAN SERIES

CHATHAM LAKE

AQUATIC VEGETATION SURVEYS-2019

Aquatic Vegetation Surveys

Chatham Lake Aquatic Vegetation Survey August 22, 2005

L.D.W.F. Inland Fisheries personnel Ryan Daniel and Randy Lively performed a vegetation survey of Chatham Lake on August 22, 2005 for the purpose of constructing an aquatic type map. The lake level at the time of the survey was approximately 18 inches below pool stage due to evaporation and low amounts of rainfall. The east (spillway) end of the lake was mostly void of aquatic vegetation. There were some isolated water hyacinths on dry ground along the dam and around the fishing pier. There was also some alligator weed growing on the dam but not extending into the water. Filamentous algae was also observed growing in shallow water adjacent to the shoreline for much of the area around the dam but was not at problematic levels. Scattered small patches of alligator weed and water primrose were seen along the north and south banks in the mid portion of the lake. The majority of the vegetation in the lake is located on the western end which is mostly less than 3 ft. deep and scattered with clumps of cypress. Emerged vegetation includes water primrose and alligator weed forming large mats near the far west end. Submerged species include filamentous algae, small amounts of slender naiad, and scattered coontail. There was no submerged vegetation in water depths over 3 feet. The percent coverage for the western one-third of the lake is approximately 25%, not including the solid mat at the far west end. Only about 5% of the shoreline along the rest of the lake has any aquatic vegetation other than filamentous algae. Other than the extremely shallow west end, vegetation is very sparse in the lake, with the entire lake having between 5%- 10% of both submerged and emergent vegetation. L.D.W.F. had sprayed for nuisance plants on within the past 60 days.

Chatham Lake – Aquatic Vegetation Survey – 2011

A survey of the aquatic vegetation on Chatham Lake was performed on 4-8-11. At the time of the survey, a mixture of submerged vegetation consisting primarily of bladderwort, fanwort, slender naiad, and coontail was found out to depths of 3 to 4 feet covering an area estimated at 40 acres. A fringe of emergent vegetation consisting primarily of red ludwigia was found along the shoreline of the lake, and the emergent vegetation extended out onto shallow flats in several areas, notably the upper end of the lake and around the fishing pier on the lower end of the lake.

In 2011, herbicide treatments were made on three occasions for salvinia control on Chatham Lake. Diquat was used at a rate of 0.75 gal per acre in addition to 1qt of surfactant comprised of 3 parts Aquaking and 1 part Thoroughbred. During an August 2011 assessment, there were minimal amounts of salvinia on the lake, but approximately 40% coverage of submerged vegetation was present.

Chatham Lake had undergone a complete drawdown for renovation purposes in 2007 which was preceded by a partial dewatering of the lake in 2004 for habitat improvement. It is apparent that drawdowns will only provide short term control of the submerged aquatic vegetation in the shallow areas of the lake. Approximately 50% (75 acres) of Chatham Lake has water depths less than 4 feet deep. This area is usually covered annually by submerged aquatic vegetation.

Chatham Lake – Aquatic Vegetation Survey – 2013

A survey of the aquatic vegetation on Chatham Lake was performed on 1-23-13. At the time of the survey a fringe of common salvinia (*Salvinia minimum*) approximately 2-3 feet wide was surrounding the majority of the shoreline on the lake. This would cover an area approximately 3-5 acres in size.

At the time of the survey in January 2013, submerged aquatic vegetation was sparse. Coontail and southern naiad were present. Aquatic vegetation coverage on Chatham Lake was estimated at less than 10%. Common salvinia was the main component of aquatic vegetation on Chatham Lake.

A second assessment was conducted on 10/14/13. Common salvinia coverage had increased to 10-15 acres and was primarily located in the extreme upper end of the lake. Submerged aquatic vegetation consisted of fanwort, coontail, and naiad species. Coverage of SAV was light in the center of the lake and generally represented good fisheries habitat. Vegetation densities increased near the shore where submerged vegetation was combined with fringe of emergent and floating plants. Species included primrose, alligator weed, hyacinths, and common salvinia. Vegetation densities have remained fairly consistent on Chatham Lake for the past three growing seasons with the exception of the late summer increases in common salvinia. Approximately 40% of Chatham Lake contained aquatic vegetation, but much of it was light in coverage and can be viewed as a benefit for fisheries production.

Chatham Lake – Aquatic Vegetation Survey 7-2-15

A survey of the aquatic vegetation on Chatham Lake was performed on 7-2-15 by LDWF Inland Fisheries Biologist, James Seales. The lake was at pool stage at the time of the survey. The water color was stained to dingy.

The lower two thirds of the lake was in very good condition. Most areas of the shoreline had a fringe of emergent and floating vegetation which primarily consisted of alligator weed (*Alternanthera philoxeroides*), water primrose (*Ludwigia octovalvis*), water pennywort (*Hydrocotyle umbellata*), duck potato (*Sagittaria latifolia*), wild taro (*Colocasia esculenta*), and water hyacinth (*Eichhornia crassipes*). Some common salvinia (*Salvinia minima*), duckweed (*Lemna* spp.), and water-meal (*Wolffia* spp.) was found interspersed with the other vegetation. Fragrant water lily (*Nymphaea odorata*) was found in a very small patch near the boat launch. The area around the fishing pier had significant mats of vegetation and had southern watergrass (*Luziola fluitans*) mixed in with the mats of water primrose and alligator weed.

Very little submerged vegetation was observed in the lake. Light to moderate coverage of coontail (*Ceratophyllum demersum*), bladderwort (*Utricularia* spp.), fanwort (*Cabomba caroliniana*), and southern naiad (*Najas guadalupensis*) was found in the extremely shallow (<2 feet) areas of the lake. Submerged vegetation was found out to depths of 3 to 4 feet deep, but coverage was very sparse in these areas. The upper one third of the lake is heavily forested with dense stands of bald

cypress (*Taxodium distichum*). Most of this area is very difficult to access with a boat. This area appears to be choked with dense mats of vegetation consisting primarily of water primrose. As one travels down the lake the solid mat of vegetation opens into scattered mats of water primrose in the area of the lake where the scattered cypress trees are located.

Currently Chatham Lake has approximately 55 acres of aquatic vegetation, most of which is found on the upper end. This equates to approximately one third of the lake being covered with aquatic vegetation. However due to the shallow water depths and dense cypress forest on the upper end, much of this is not passable by boat regardless of the vegetation coverage. The remaining 103 acres of lake is only slightly impacted by vegetation; therefore, there is minimal effect on recreational activities.

Chatham Lake – Aquatic Vegetation Assessment 2016

An assessment of the aquatic vegetation on Chatham Lake was performed on 7-26-16 by LDWF Inland Fisheries Biologist, James Seales. The lake was at pool stage at the time of the survey. The water color was heavily stained.

The lower two thirds of the lake was in very good condition except for the presence of giant salvinia. Most areas of the shoreline had a fringe of emergent and floating vegetation which primarily consisted of water primrose along with a mixture of giant and common salvinia. Other species present included duck potato, wild taro, water pennywort and alligator weed. A pocket directly across the lake from the boat ramp and the area around the fishing pier had significant mats of emergent vegetation and giant salvinia. The area around the fishing pier had southern watergrass mixed in with the mats of water primrose. A fringe of giant salvinia was found along the southern shore in the area of the boat ramp and fishing pier.

Submerged vegetation was very difficult to find in the lake. Only a couple of strands of bladderwort and southern naiad were observed during the survey. These were found in extremely shallow water less than two feet deep. It is likely that high water conditions earlier in the year were not favorable for submerged aquatic vegetation. Emergent vegetation such as primrose was less prevalent on the west end of the lake than in past years as well.

Although Chatham Lake spans as much as 158 acres, the heavily forested west end is too shallow for vessels and is not suitable for traditional forms of recreation regardless of vegetation present. Therefore, the lake has approximately 103 acres of recreationally, viable habitat. While salvinia is impacting an estimated 55 acres of the total lake, this coverage is having minimal effect on the recreational use of the lake.

Chatham Lake-Aquatic Vegetation Assessment 2017

An assessment of the aquatic vegetation on Chatham Lake (158 acres) was performed on 7-19-17 by LDWF Inland Fisheries Biologist, James Seales. The lake was approximately 1" below pool stage at the time of the survey. The water color was stained with a moderate algae bloom.

The upper one third of the lake is heavily forested with dense stands of bald cypress. Most of this area is very difficult to access with a boat. Giant salvinia has become the predominant aquatic plant on the lake and is found in dense mats in the heavily forested areas, and along the shoreline in the mid-lake area. Occasional patches of water primrose and alligator weed are also found in this area of the lake.

In the remainder of the lake, primary and secondary stage giant salvinia was found floating through the open water areas in loose mats or individual plants. These plants formed a fringe in some of the shoreline areas. It is likely that common salvinia was interspersed in amongst the giant salvinia but it was difficult to ascertain due to the large numbers of primary stage giant salvinia plants observed. Emergent and marginal vegetation which was found in a light fringe along some of the shoreline areas on the lower end of the lake included; water primrose, alligator weed, duck potato, wild taro, water pennywort and southern water grass.

Submerged vegetation was very difficult to find in the lake. Only a couple of strands decaying submerged vegetation were observed during the survey.

Although Chatham Lake spans as much as 158 acres, the heavily forested west end is too shallow for vessels and is not suitable for traditional forms of recreation regardless of vegetation present. Therefore, the lake has approximately 103 acres of recreationally, viable habitat. While salvinia is covering an estimated 70 acres of the total lake, impacts to the recreational area of the lake are presently minimal to moderate (approximately 15% coverage). At times, small drifting mats of salvinia may impact recreational use in the main lake area.

Chatham Lake-Aquatic Vegetation Assessment 2018

An assessment of the aquatic vegetation on Chatham Lake (158 acres) was performed on 6-21-18 by LDWF Inland Fisheries Biologist, James Seales. The lake was at normal pool stage at the time of the survey. The water color was heavily stained with a slight algae bloom.

Although Chatham Lake spans as much as 158 acres, the heavily forested west end is too shallow for vessels and is not suitable for traditional forms of recreation regardless of vegetation present. Therefore, the lake has approximately 103 acres of recreationally, viable habitat.

Coverage of floating and emergent aquatic vegetation is approximately eight acres which is greatly reduced from what has been observed the past several years. The harsh winter of 2017/2018 has led to a reduction of such vegetation on all area lakes.

Giant salvinia coverage was greatly reduced from past years. The only area of the lake where salvinia was concentrated (two acres) was directly across the lake from the boat launch in an area that is isolated from the lake except during high water. A sedimentation ridge along a line of cypress trees prevents boat access to this area; however, floating vegetation can be exchanged with the lake if the water is above pool by only a few inches. In the remainder of the lake only

occasional patches of primary stage giant salvinia mixed with common salvinia and duckweed were observed. An estimated total of four acres of salvinia were present on Chatham Lake at the time of the survey. Giant salvinia was the dominant species present.

The main lake area contained a light fringe of wild taro, water primrose, alligator weed, water pennywort, duck potato, and southern watergrass along the shoreline. Occasional, small patches of water primrose and alligator weed were found on the upper end of the lake. Very sparse coverage of submerged vegetation was found out to the 2' – 3' contour. Small concentrations of coontail, milfoil, naiad, bladderwort, fanwort, and slender spikerush were observed.